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ABSTRACT

Upper secondary schooling in Sweden was reformed in 1970. Until then, the preuniversity three- and four-year theoretical courses of study had constituted a separate type of school from vocational education. These two programs of study were combined to form a single, integrated upper secondary school with a small number of two-year theoretical courses of study. A further major reform is now being introduced. The new proposal calls for the inauguration of a three-year experimental scheme beginning in the 1988-89 school year. At least 10 percent of the training provided in the first two years is to be conducted in the workplace. In the third year, the workplace portion of vocational training provided is to increase to 60 percent of the total study time input. An increased proportion of general subjects and the development of modular syllabi are two other features of the proposed program. To help counteract sex bias, at least 20 percent of first-time student equivalents in the technical-industrial and social service/caring professions courses are to be reserved for females and males, respectively. Provisions pertaining to equipment and teaching materials for vocational education and education of supervisors have also been included in the bill. (MN)

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# Swedish Ministry of Education and Cultural Affairs

# Ministère Suédois de l´Education Nationale et des Affaires Culturelles

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## A NEW SCHEME OF UPPER SECONDARY VOCATIONAL EDUCATION

Government Bill passed by the Swedish Riksdag on 6th May 1988

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Mailing Address
Adresse Postale:
S-103 33 STOCKHOLM
Sweden / Suède
Street/Visites:
Mynttorget 1
Telephone:
+46 8 763 10 00
Telex:
132 84 MINEDUC S
Telefax:
+46 8 723 11 92

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For further information please contact Marie-Louise Hallström, Secretariat for International Affairs, Ministry of Education, S-103 33 STOCKHOLM, Sweden. Tel: +46 8 763 1000, Telefax + 46 8 723 11 92.

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## A NEW SCHEME OF UPPER SECONDARY SCHOOL VOCATIONAL EDUCATION

Upper secondary schooling in Sweden was reformed in 1970. Until then, the mainly pre-university three- and four-year theoretical lines of study and, secondly, vocational education had constituted separate types of school. These lines (i.e. study programmes) were now amalgamated with a small number of two-year theoretical lines to form a single, integrated upper secondary school. A further major reform is now being introduced in the process of improving and developing Swedish upper secondary schooling.

Swedish upper secondary schooling is voluntary. About 40 % of pupils leaving compulsory school go on to one of the three- or four-year theoretical, pre-university lines, either immediately of after a year or so, less than 10 % take one of the two-year theoretical lines and some 40 % opt for two-year vocational lines.

Developments in the Swedish labour market in recent years have had the effect of tightening up educational requirements. Both better and deeper skills are now called for, as well as a greater knowledge of general subjects. The Government therefore appointed, in 1984, a commission, consisting of, among others, representatives of the labour market parties, to draft a new scheme of upper secondary vocational education. The Commission presented its proposals in 1986, in a report entitled A Three-Year Scheme of Vocational Education. The proposals introduced by the Government and the Riksdag are extensively based on that report. The Government Bill calls for the inauguration of a three-year experimental scheme in the 1988/89 school year. The main outlines of the new scheme of upper secondary schooling proposed by the Government are presented, as approved by the Riksdag, in the following pages.

## 2. Guidelines for the experimental activities

### 2.1 Three-year study programme

Under the experimental scheme, upper secondary vocational education is to be of three years' duration.

The prolongation of studies from two to three years under the experimental scheme will provide an opportunity for increasing the proportion of both general subjects and vocational subjects, without any antithesis between the two. Working life can no longer be divided, to the same extent as previously, into a section requiring theoretical education and another requiring practical education. General subjects are also an important foundation for studies of vocational subjects. Communicative ability, knowledge of languages and mathematical skills are very often essential to the assimilation of vocational theory, and they are also needed in order to acquire a better understanding of working techniques.

### 2.2 Education at the workplace

o Scope

Workplace education is to be more extensive than at present and is to be included in all vocational education programmes under the experimental scheme. The workplace portion of vocational education in grades 1 and 2 is to comprise at least 10 % of total study time input during these grades. The workplace portion of grade 3 is normally to comprise 60 % of total study time input.

It is proposed that workplace education be included in all vocational education programmes under the experimental scheme. The basic acquisition of skills, however, should take place in school, where facilities, equipment and trained teachers are avilable and where education is unaffected by production commitments. Workplace education, however, will confer great educational benefits as a result of the students being able to see working operations realistically applied, which should motivate them for further studies. In this way too, education will be able to keep abreast of developments regarding, for example, equipment and working techniques in production.

All study routes under the experimental scheme should include some portion of workplace education. At least 10 % of total study time input

during the first two grades should be located at workplaces. This does not preclude certain forms of vocational education having needs which justify more extensive workplace activity.

The third year of the experimental scheme will among other things provide the specialisation and the measure of skills development needed in order for the students to be able to work in a particular occupational sphere, while at the same time facilitating their transition from education to employment. The Government Bill states that the workplace portion of time input should normally be 60 %. This corresponds to three school days per week, but the actual time allocation should be adaptable to the needs of different study routes and different localities.

As an alternative workplace education in grade 3 it will also be possible to arrange in-school education, so called alternative courses.

o Workplace education

The workplace portion of vocational education under the experimental scheme is to be syllabus-related and is to take place under the direction of supervisors whom the workplace makes available to the upper secondary school for this purpose. The National Board of Education will, after consulting representatives of educational mandators and vocational committees at central level, diced which sections of study programmes may be completed at workplaces. These sections are to be specified in the syllabi. Local education authorities and training committees will then decide the study programme sections to be completed at workplaces in the individual community.

o Availability of workplaces for education

Different sections of study programmes are to be completed where the best results are attainable, with reference to the full objectives of upper secondary school. Educational opportunities in the employment sector are to be procured under the aegis of the local educational mandator.

o Remuneration for educational opportunities at work

A company or institution receiving students for workplace education on the terms indicated by the time schedules and syllabi for the experimental scheme and providing supervisory staff for the education will

receive a special State grant. This grant is to be disbursed through the educational mandator. Hourly rates are to be fixed by the National Board of Education.

o Alternative arrangements for small occupational fields

An alternative form of vocational education should be possible under the experimental scheme, in such a way that a student studies the speciality subject(s) mainly on an individual basis, with a large portion of the study programme being completed at a workplace. Vocational theory and general subjects are to be included to the same extent as for other students.

Upper secondary school apprenticeships have, since the 1984/85 school year, formed part of the regular scheme of upper secondary schooling. Under these apprenticeships, an apprentice employed by a company also ranks as an upper secondary school student. The company then undertakes to provide the apprentice with vocational education under a syllabus fixed by the local education authority. Upper secondary school apprenticeships have made it possible to provide vocational education for small, unusual occupations. Less than 2 % of students in each year take up an apprenticeship.

The Government Bill states that a wider sheme of workplace education should also be capable of accomodating a counterpart of present-day upper secondary school apprenticeship. This should be capable of constituting an alternative under the experimental scheme, in the sense of a student taking the specialy subject(s) mainly on a private basis, with a large proportion of instruction in all grades being provided at the workplace. Like other students involved in the experimental scheme, the student should not have employee status.

3. Time schedules and syllabi for lines of experimental study

o Increased proportion of general subjects

All students taking part in the experimental scheme are to study Swedish, civics, English, physical education and a compulsory elective subject. Mathematics, art and music are always to be offered as elective subjects. In addition, each local education authority/training committee may decide to offer additional elective subjects from among those available in upper secondary school, and will decide, in such a case, what those subjects are to be.

Thus all students taking part in the experimental scheme are to take what are termed general subjects. These subjects have a syllabus which is common to several upper secondary school study routes. Marks are awarded for these subjects in the usual way, on a relative scale. In addition, the vocational study routes include at least one speciality subject for each programme of vocational education , i.e. the subject in which students acquire most of their professional knowledge. It is proposed that the vocational study routes under the experimental scheme should comprise the following subjects, with periods per week (ppw) and lessons as indicated.

Basic time schedule

| Grades | | ppw | Lessons |
|---|---|---|---|
| 1-3 | Swedish | 7 | 238 |
| " | Civics | 5 | 170 |
| " | English | 6 | 204 |
| " | Physical education | 4 | 136 |
| " | Compulsory elective subject | 6 | 204 |
| " | Reserve period | 1 | 34 |
| Total | | 29 | 986 |
| | | | |
| 3 | Special assignment | 3 | 102 |
| " | Speciality subject(s) | 3 | 102 |
| 1-3 | Speciality subject(s) | 79 | 2,686 |
| Total | | 114 | 3,876 |

It is proposed that both general subjects and speciality subjects should be allotted net time inputs, i.e. that each subject should have a fixed number of lessons to be completed by the students. A factor of 34 (corresponding to 34 "effective" weeks) has been used when converting ppw into lessons.

o Distribution of subjects between grades

The time schedules for the experimental scheme indicate both number of periods per week and number of lessons for the subjects included. The educational mandators may distribute lessons between grades to meet local preferences and capacity for arranging the education, subject to

the following restrictions: the total number of periods per week for education taking place in school may not exceed 40 per grade. In grade 3 there are to be three ppw (102 lessons) for special assignment and in-school speciality subject respectively.

During workplace education, the students are in principle to comply with regular hours at the workplace.

o Modular syllabi

The syllabi for the vocational subjects under the experimental scheme are divided into educational sections which are educationally delimited and credentially related so as to correspond to a need in working life. These educational sections are termed modules. This modular system should be designed so as to the serviceable both in upper secondary school, in municipal adult education and in basic labour market training.

4. Dimensioning and location of experimental activities

The experimental scheme may comprise 6 000 first-time student equivalents for each of the three fiscal years 1988/89, 1989/90 and 1990/91. The experimental activities should take place in municipalities with various demographic and economic structures.

During the experimental activities it is important to gauge the quality of workplace education and the total load which it imposes on the labour market in different kinds of municipality, and so the experiments should comprise two structures, viz concentrated experiments involving numerous study routes in a number of large regions (full-scale experiments) and a more scattered network of experimental municipalities.

The Government Bill recommends the decisions concerning the location of experimental activities be made by the NBE.

During the spring of 1988 the NBE, acting by authority of the Government, specified the localities in which the experimental scheme of 3-year vocational education may be conducted during the 1988/89 school year.

5. Marking system and admissions

o Course matriculation certificate

For those parts of the experimental study programmes which will be constructed on a modular basis - i.e. the speciality subjects - each

student is, instead of traditional marks at the end of each term, to receive a course matriculation certificate specifying the modules which the student has hitherto completed and passed.

Course matriculation certificates are to include a brief description of the content of each model, except where this is apparent from the designation. It is also proposed that the system of appraisal should include only Pass and Fail. This will prevent course matriculation certificates being used as selective instruments.

o Minority sex admissions

In order to counteract the biased representation of the sexes in vocational study routes of upper secondary school, at least 20 % of first-time student equivalents in the Technical-Industrial Line and Social Service and CAring Professions Lines of the experimental scheme are to be reserved for girls and boys respectively.

The Minister introducing the Bill observes that, as regards the current experimental scheme of 3-year vocational lines of upper secondary school, special efforts have been made to recruit girls for the Electrical Engineering Branch of the Technical-Industrial Line.

6. Students and labour legislation etc.

6.1 Student status

Students taking part in the experimental scheme are not to have employee status.

As regards the students' status in labour law during workplace education, this policy decision implies that no employer-employee relationship applies to students during their education under the experimental scheme.

It is for schools to admit students to study programmes and to conclude agreements for the requisite number of training places with companies and institutions, as well as subsequently referring students to the workplaces concerned. Schools are to be responsible for the education and are to supervise it. Thus no agreement is to be concluded between the individual student and a workplace. The student will receive, not a wage or salary but study assistance, like other students. The education will comply with the school working year and students will take time off in the form of school holidays, as opposed to employees'

holiday benefits. Workplace activities, on the other hand, should comply with the daily hours of the workplace concerned.

6.2 Insurance coverage during workplace education etc.

Students taking part in the experimental scheme of upper secondary school vocational education are, during the workplace portion of their education, to have insurance coverage comparable to that of employees.

The full responsibility which it is proposed the educational mandator should incur for students taking part in the experimental scheme, even during the workplace portions of their education, implies that educational mandators are also to be primarily responsible for the students during these parts of their study programme.

7. Equipment for vocational education etc.

7.1 Grants for equipment used in the experimental activities

The municipalities taking part in the experimental scheme should receive State grants towards the cost of equipment, in the form of supplementary grants.

The equipment grant has a strategically important part to play as regards rapidly modernising vocational education in need of new equipment. A successful strategy for the renewal of vocational education will demand certain investments in new equipment, concurrently with the introduction of syllabi. The expansion of workplace education calls for a good, up-to-date standard of equipment in the experimental municipalities. Otherwise closer contacts between schools and working life and alternation between periods of in-school and workplace modules would be impeded.

During the impending experimental period, supplementary grants will have a particularly important part to play. The renewal of vocational education will mean that new equipment is needed in order for new teaching items to be added to the study programme. Certain equipment which the students could do with, however, is of such a kind that schools can hardly be expected to provide it. In certain cases, therefore, education will have to fall back on equipment available only at workplaces or in technology centres.

7.2 Additional educational leadership for infotech questions

In every upper secondary school with computer science activities, per-

sonnel resources should be reserved for the promotion of educational development and a certain amount of in-service training for computer science teaching, as well as to assume a certain amount of responsibility for computer equipment. State funds ought therefore to be added, as from the 1989/90 fiscal year, to the special function of the school management resource, to facilitate a local reinforcement of management for computer use and computer education in upper secondary schools and municipal adult education. The annual allocation for this purpose is estimated at MSEK 6.

8. Teaching materials for vocational education

In connection with the 1970 reform of upper secondary schooling, great efforts were made to produce appropriate teaching materials adapted to the new study programmes. Owing to the large number of study programmes and specialities which upper secondary school offers, many study alternatives do not have very many students. General subjects are similarly constructed in many study programmes and the market for these teaching materials, consequently, is fairly large. Vocational subjects, by contrast, differ a great deal from one study programme to another, which means only a small group for each individual product.

State support for the production of teaching materials is to be raised by MSEK 1 in order to encourage the production of teaching materials for upper secondary vocational education, adapted to the new syllabi.

9. Education of supervisors etc.

Supervisory training will be compulsory for companies or institutions providing workplace education under the experimental scheme. Furthermore, thr training of supervisors is to begin during the 1988/89 fiscal year. The duration and content of this training should be investigated during 1988/89 by means of experimental activities. Seven days' training divided into two spells should provide a suitable point of departure in this respect. Expenditure on supervisor training is estimated at MSEK 3 for 1988/89.

INSET opportunities are being enlarged, above all for vocational teachers directly involved in the experimental scheme. Through the proposed augmentation of workplace education, time is being reserved under the experimental scheme for an expansion of the in-service education received by vocational teachers. This INSET will be compulsory. It will give high priority to subject-related courses and vocational studies.

MSEK 3,8 are being allocated for centrally planned INSET during 1988/89.

10. Study route structure

In the Government Bill, the Minister submits that the NBE's curricular work for vocational study routes should not be conducted in such a way that each industry or study programme is treated in isolation. The NBE has been instructed to present, not later than 1st March 1989, a new structure of study programmes aimed at restricting the number of lines in upper secondary school. The Government Bill includes an example of a study route structure having seven different fields of study organisation.

11. Evaluation and follow-up

A comprehensive evaluation of the experimental scheme is to be undertaken by different groups including representatives of the political parties and of the labour market.